

RABINOVICH, I.M. (Moskva)

Using reciprocal couplings for the simplification of secular
equations. Stroi. mekh. i rasch. soor. no.1:37-40 '59.

(MIRA 12:7)

(Vibration) (Elastic rods and wires)

RABINOVICH, I.M., doktor tekhn. nauk prof (Moskva)

Geometric investigations of nonlinear vibrations of elastic systems having one degree of freedom. Issl. po teor. sooruzh. no.8:137-143. '59. (MIRA 12:12)

1.Chlen-korrespondent AN SSSR.
(Structural frames--Vibration)

RABINOVICH, I.M., prof. (Moskva)

Some problems in the theory of statically indeterminate girders.
Issl. po teor. sooruzh. n.8:485-497 '59. (MIRA 12:12)
(Girders)

SNITKO, Nikolay Konstantinovich, prof., doktor tekhn.nauk; RABINOVICH, I.M., prof., doktor tekhn.nauk, retsenzent; FILIN, A.P., prof., doktor tekhn.nauk, nauchnyy red.; KAPLAN, M.Ya., red.izd-va; VORONETSKAYA, L.V., tekhn.red.

[Dynamics of structures] Dinamika sooruzhenii. Leningrad, Gos. izd-vo lit-ry po stroit., arkhitekt. i stroit.materialam, 1960. 355 p. (MIRA 13:7)

1. Chlen-korrespondent AN SSSR (for Rabinovich).
(Structures, Theory of) (Vibration)

RABINOVICH, Isaak Moiseyevich, ed.

Structural Mechanics in the U.S.S.R.; 1917-1957.
New York, London, Pergamon Press, 1960.

VIII, 431 p.

Translated from the Original Russian: Stroitel'naya
Mekhanika v SSSR, 1917-1957. Moscow, 1959.
Includes Bibliographies.

PHASE I BOOK EXPLOITATION

SOV/5481

Rabinovich, Isaak Moiseyevich, Corresponding Member, Academy of Sciences USSR,
Member of the Academy of Construction and Architecture of the USSR.

Osnovy stroitel'noy mekhaniki stershnovykh sistem (Fundamentals of the
Structural Mechanics of Systems of Trusses) 3rd ed., rev. and enl. Moscow,
Gostroyizdat, 1960, 518 p. Errata slip inserted. 25,000 copies printed.

Ed. of Publishing House: E. M. Badarina; Tech. Ed.: L. M. Osenko.

PURPOSE: This book was authorized by the Ministry of Higher and Secondary
Specialized Education of the USSR (Ministerstvo vysshego i srednego spetsial'-
nogo obrazovaniya SSSR) as a textbook for students of structural engineering
vuzes and divisions in schools of higher education.

COVERAGE: The following subjects are covered: 1) Methods for calculating
statically determinate systems, including three-dimensional trusses; 2) methods
for calculating statically indeterminate systems (continuous beams, frames,
arches and trusses); 3) the fundamentals of stability calculations and cal-
culations for dynamic loading effects; and 4) the fundamentals of approximate

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Fundamentals of the Structural Mechanics (Cont.)

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bulkhead calculations. Several sections that appeared in the second edition have been slightly enlarged. The chapter on the calculation of a beam on a continuous elastic base has been supplemented and many additions were made to the part on the dynamics of mechanisms. The author thanks the reviewers of the book: Kafedra stroitel'noy mekhaniki Kiyevskogo inzhenerno-stroitel'nogo instituta (Department of Structural Mechanics of the Kiyev Construction Engineering Institute) headed by Professor D. V. Vaynberg and Professors D. V. Bychov, G. K. Kleyn, and V. G. Rekach. A considerable number of Soviet, French, German, English, Italian, and Latin references appear at the end of some chapters and in footnotes to the text.

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Card 2/23

RABINOVICH, I.M., prof., doktor tekhn.nauk (Moskva)

Designing structures for loads which vary with time according
to the periodic law. Issl. po teor. sooruzh. no. 9:109-118
'60. (MIRA 14:1)

(Structures, Theory of)

MATEVOSYAN, Rafael' Rubenovich; RABINOVICH, I.M., prof., doktor tekhn.nauk, retsenzent; KHALAFYANTS, N.M., red.izd-va; EL'KINA, E.M., tekhn.red.

[Stability of composite red systems (qualitative theory)] Ustoi-
chivost' slozhnykh sterzhnevyykh sistem (kachestvennaya teoriya).
Moskva, Gos.izd-vo lit-ry po stroit.arkhit.i stroit. materialam,
1961. 251 p. (Akademiya stroitel'stva i arkhitektury SSSR. Institut
stroitel'nykh konstruksii. Trudy, no.3). (MIRA 14:10)

1. Chlen-korrespondent AN SSSR i deystvitel'nyy chlen Akademii
stroitel'stva i arkhitektury SSSR (for Rabinovich).
(Structures, Theory of)

L 17406-63 EWP(r)/EWT(d)/EWT(m)/BDS AFFTC EM S/124/63/000/004/044/064

AUTHOR: Rabinovich, I. M.

TITLE: Analysis of a load by the forms of natural oscillations of the system

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 4, 1963, 19, abstract 4V147
(Stroit. mekhan. i raschet sooruzh., no. 4, 1961, 1-4)

TEXT: The author shows that upon analysis of a load by the forms of the natural oscillations of an elastic columnar system, there does not always exist a mutually single-valued correspondence between load and breakdown. To a given load corresponds one definite analysis; to the latter, however, may correspond an infinite number of loads, distinguished by loads of "zero" type - that is, loads whose work is equal to zero with any displacements of the system. Such loads may be included in a system having nondeformed elements. The author gives examples. F. M. Dimentberg.

[Abstracter's note: Complete translation.]

Card 1/1

RABINOVICH, I.M., doktor tekhn.nauk (Moskva)

Designing statically indeterminate systems with excessive points
of contact on one side. Issl. po teor. sooruzh. no.10:163-169
'61. (MIRA 14:8)

1. Chlen-korrespondent AN SSSR.
(Structures, Theory of)

RABINOVICH, I.M., doktor tekhn.nauk (Moskva)

Dynamics of a bilinear elastic system with one degree of freedom.
Issl. po teor. sooruzh. no.10:38-45 '61. (MIRA 14:8)

1. Chlen-korrespondent AN SSSR.
(Elasticity)

RABINOVICH, I.M., red.; BEGAK, B.A., red. izd-va; TEMKINA, Ye.L.,
tekhn. red.

[Suspension roofs; transactions] Visiachie pokrytiia; trudy.
Pod red. I.M.Rabinovicha. Moskva, Gosstroizdat, 1962. 247 p.
(MIRA 15:7)

1. Soveshchaniye po issledovaniyu i vnedreniyu visyachikh pokrytiy, Moscow, 1961. 2. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury SSSR i chlen-korrespondent Akademii nauk SSSR (for Rabinovich).

(Roofs, Suspension)

KUZ'MIN, N.L., kand. tekhn. nauk; REKACH, V.G., doktor tekhn. nauk;
ROZENBLAT, G.I., kand. tekhn. nauk; RABINOVICH, I.M., red.;
GORYACHEVA, T.V., red.izd-va; KOMAROVSKAYA, L.A., ~~tekhn.~~red.

[Collection of problems for a course in structural mechanics;
pt. I - Problems, Pt.II - Answers and solutions] Sbornik zadach
po kursu stroitel'noi mekhaniki; ch.I - Zadachi, ch.II - Otvety
i resheniia. Pod red. I.M.Rabinovicha. Izd.2., perer. Moskva,
Gosstroizdat, 1962. 331 p. (MIRA 16:2)

1. Chlen-korrespondent Akademii nauk SSSR, deystvitel'nyy chlen
Akademii ~~stroitel'stva~~ i arkhitektury SSSR (for Rabinovich).
(Structures, Theory of)

L 16750-63

EWT(d)/EWT(1)/BDS AFFTC/ASD/IJP(O)

S/124/63/000/004/046/064

53

AUTHOR: Rabinovich, I. M.

TITLE: Linear oscillations²¹ of a complex columnar system with finite number of degrees of freedom and of oscillation of its elements

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 4, 1963, 20, abstract 4V149
(Sb. Issled. po teorii sooruzh. vyp. 11, M., Gosstroydat, 1962, 115-126)

TEXT: The author proposes a method for the study of natural oscillations of a system with finite number of degrees of freedom, with use of forced oscillations of a simpler system formed from the given one by breaking it down. In the author's presentation the idea consists of the fact that "the natural oscillations of a complex system are at the same time forced oscillations of its elements." The problem of determining the natural frequencies of the mechanical system in question is reduced by the author to determine the frequencies of a certain fictitious external exciting force of harmonic type applied to a simpler (unconnected) mechanical system. The author takes up a number of concrete examples which illustrate the use of his method. The method, as he points out, can be adapted to the study of the stability of complex elastic columnar systems; particularly to determining complex critical values of external loads. A. I. Oseled'ko.

Card 1/1 [Abstracter's note: Complete translation.]

PROTASOV, Konstantin Georgiyevich, doktor tekhn. nauk; RABINOVICH,
I.M., prof., retsenzent; KRYL'TSOV, Ye.I., kand. tekhn.nauk,
retsenzent; NEKLEPAYEVA, Z.A., inzh., red.; MEDVEDEVA, M.A.,
tekhn. red.

[New cable-supported trusses] Novye vantovye fermy. Moskva,
Transzheldorizdat, 1963. 98 p. (MIRA 16:4)

1. Chlen-korrespondent Akademii nauk SSSR (for Rabinovich).
(Trusses) (Bridges, Iron and steel)

RABINOVICH, I.M. (Moskva)

Invariants of statically indeterminate systems and some applications of them. Izv. po teor. sooruzh. no.12:141-158 '63.
(MIRA 16:6)

1. Chlen-korrespondent AN SSSR, deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury SSSR.
(Invariants)

~~RABINOVICH~~, I.M. (Moskva)

Invariants of statically indeterminate systems and some applications of them. Izv. po teor. sooruzh. no.12:141-158 '63.
(MIRA 16:6)

1. Chlen-korrespondent AN SSSR, deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury SSSR.
(Invariants)

GOL'DENBLAT, I.I.; KORENEV, B.G.; RABINOVICH, I.M.; SMIRNOV, A.F.

Concerning the article by A.A.Pikovskii and A.A.Derkachev,
"Dynamic theory of stability." Stroi.mekh.i rasch.soor. 5
no.2:44-47 '63. (MIRA 16:6)

(Stability)

RABINOVICH, I.X. (Moscow)

"On the problem of minimumweight structural design".

Report presented at the 2nd All-Union Congress on Theoretical
and Applied Mechanics, Moscow 29 Jan - 5 Feb 64.

SMIRNOV, Anatoliy Filippovich, doktor tekhn. nauk, prof.;
ALEKSANDROV, Anatoliy Vasil'yevich; SHAPOSHENIKOV,
Nikolay Nikolayevich; LASHCHENIKOV, Boris Yakovlevich;
RABINOVICH, I.M., doktor tekhn. nauk, prof., retsenzent;
OSIPOVA, E.M., red.; ZUBKOVA, M.S., red.

[Calculating structures by using computing machines; a
manual for colleges] Raschet sooruzhenii s primeneniem vy-
chislitel'nykh mashin; uchebnoe posobie dlia vuzov. [By]
A.F.Smirnov i dr. Moskva, Stroizdat, 1964. 379 p.
(MIRA 18:2)

BOLOTIN, V.V., prof., red.; RABINOVICH, I.M., prof., red.;
SMIRNOV, A.F., prof., red.; LUZHIN, O.V., kand. tekhn.
nauk, nauchn. red.

[Problems of stability in structural mechanics] Problemy
ustoychivosti v stroitel'noi mekhanike; trudy. Moskva,
Stroizdat, 1965. 474 p. (MIRA 18:5)

1. Vsesoyuznaya konferentsiya po problemam ustoychivosti
v stroitel'noy mekhanike, Moskva, 1963.

ARKHANGEL'SKIY, P.K., inzhener; YEREMEYEV, A.S., inzhener; RABINOVICH, I.N.,
inzhener; SHAPIRO, D.V., inzhener.

Development of electric machinery construction at the Kirov "Elektrosila"
Plant. Vest.elektroprom. 18 no.11:7-10 N '47. (MLRA 6:12)

1. Zavod "Elektrosila" im. S.M.Kirova.

(Electric machinery)

PABINOVICH, I. N.

SHAIRO, D. V. and PABINOVICH, I. N. "New exciters for synchronous turbo-generators",
Elektrosila, No. 5, 1948, p. 52-54.

SO: U-3042, 11 March 53, (Letopis 'Zhurnal 'nykh Statey, No.7 1949).

RABINOVICH, I.N.

ZIMIN, Vladimir Ivanovich; KAPLAN, Moisey Yakovlevich; PALEY, Anna Markovna; RABINOVICH, Isay Matanovich; FEDOROV, Vasilii Petrovich; KHAKKEN, Petr Andreyevich; RIVLIN, L.B., redaktor; VORONETSKAYA, L.V., tekhnicheskii redaktor.

[Windings of electric machinery] Obmotki elektricheskikh mashin.
Izd. 4-e, perer. Moskva, Gos. energ. izd-vo, 1954. 575 p.
(Electric machinery) (MIRA 8:1)

RABINOVICH, I. N.

AID P - 1470

Subject : USSR/Electricity

Card 1/1 Pub. 27 - 21/36

Authors : Rabinovich, I. N., Bayko, V. F., Vavilov, A. A., Engs.

Title : Amplidyne regulators with in-phase field (Discussion of the article by O. I. Zolotarev, Elektichestvo, No.3, 1953)

Periodical : Elektrichestvo, 2, 67-68, F 1955

Abstract : The authors criticize the statement of the problem by O. I. Zolotarev, in which they say he made several incorrect assumptions leading to wrong conclusions. They also criticize the definitions of the basic characteristics of amplidyne regulators. This, they conclude, disqualifies the article for use in the study and testing of this type of electrical machinery.

Institution: Plant "Elektrosila"

Submitted : No date

RABINOVICH, I.M.

3(5) PHASE I BOOK EXPLOITATION 507/2505
Akademika nauk Gruzinskoy SSR. Sovet po izucheniyu proizvoditel'nykh sil

Priruchnyye resheniya Gruzinskoy SSR. t. 2: Neometallichekiye polimerye ispolazheniya (Natural Resources of the Georgian Soviet Socialist Republic. v. 2: Nonmetallic Mineral Deposits) Moscow, Izdatvo AN SSSR, 1959. 379 p. Errata slip inserted. 5,500 copies printed.

Ed.: P.M. Pavade, Corresponding Member, Gruzinskoy SSR Academy of Sciences; Ed. of Publishing House: K.M. Pedet'yev, Tbilisi, U.S.S.R.; A.P. Guseva; Editorial Board: M.I. Agladze, Zh. M. Archvadze, N.D. Vachadze, G.O. Gvatselani, M.I. Gudimov, Zh. A.K. Dzhanelidze, G.S. Dotsenidze, S.V. Duralidze, M. Katskhoveli, I.S. Mikhaladze, M.M. Mubinteyn, A.A. Tvalchvelidze (deceased), G.V. Tskitashvili, and P.O. Zhongeliya.

PURPOSE: This book is intended for economic geologists and mineralogists.

CONTENTS: This collection of articles describes the nonmetallic mineral deposits of the Gruzinskaya SSR and the extent to which they have been exploited. Individual articles discuss the importance of barite, diatomite, talc, andesite, and other minerals to the chemical industry; of barite, guanine, and bentonitic clays to the petroleum industry; and of marble, slate, and limestones to the construction industry. A map depicting the major nonmetallic mineral deposits is included with the work. No personalities are mentioned. References accompany each article.

Lateites. Gorbunov, S.S. 259

Lateites -- the terra rossa of Georgia 259

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Other and various deposits in Georgia 284

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Marble. Mensadze, A.M. 295

Card 10/13

④

SOV/112-58-2-2185

Translation from: Referativnyy zhurnal, Elektrotekhnika, 1958, Nr 2, p 62 (USSR)

AUTHOR: Rabinovich, L. N.

TITLE: The Large DC Machines of the "Elektrosila" Plant im. S. M. Kirov
(Krupnyye mashiny postoyannogo toka zavoda "Elektrosila" im. S. M. Kirova)

PERIODICAL: V sb.: Raboty M-va elektrotekhn. prom-sti SSSR po mekhaniz. i
avtomatiz. nar. kh-vu. Z. M., 1956, pp 5-16

ABSTRACT: The "Elektrosila" plant builds large DC electric motors of 25-6,500 kw with torque up to 120 tm and overload torque up to 300 tm. To supply power motors, the plant builds AC-DC motor generator sets in which individual generator capacity reaches 5,000 kw. Over the last few years, a number of high-rpm DC motors have been built that have a wide range of speed regulation, e.g.: 4,195 kw, 150/300 rpm; 2,210 kw, 360/720 rpm; 1,840 kw, 200/400 rpm. These motor types have been built: motors for high-speed plate-rolling mills; motors with built-in air-filters intended for meteorological plants; motors for high-productivity shovels with 14-m³ bucket capacity; motors for high-speed

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SOV/112-58-2-2185

The Large DC Machines of the "Elektrosila" Plant im. S. M. Kirov

elevators, etc. The batch production of electrical equipment for Diesel electric ships of up to 10,000 tons has been organized. Machines with still higher capacities are being developed; e.g., 14,720 kw ship-propulsion motors. A single standardized line of large DC machines is being designed.

A.G.K.

Card 2/2

SOV/110-59-2-1/21

AUTHORS: Ivanov, N.P., Pankratov, B.Ya., Rabinovich, I.N., and Shubov, I.G., Engineers

TITLE: Water-cooled Direct Current Machines (Mashiny postoyannogo toka s vodyanym okhlazhdeniyem)

PERIODICAL: Vestnik Elektromyshlennosti, 1959, ³⁴Nr 2, pp 1-4 (USSR)

ABSTRACT: The disadvantages of normal methods of cooling rotating machines are briefly described. Graphs showing the reduction in output for a given frame size for totally enclosed as compared with protected machines are given in Fig 1. The increase in overall machine size that results from the use of air coolers is illustrated by the outline drawings of Fig 2. Because of the great need for a small totally enclosed machine the authors have developed the design and manufacture of an enclosed machine with internal water cooling, a general view of which is given in Fig 3, whilst the armature and stator are shown separately in Fig 4. The machine is cooled by special elements in the form of brass discs to which brass tubes are brazed (see Fig 5A). These plates, which are 10 mm thick, are assembled in the armature steel.

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Water-Cooled Direct Current Machines SOV/110-59-2-1/21

The ends of the tubes are all connected to the central bore of the shaft, and at the free end of the shaft there is a water distributing head which has channels for delivery and return of water. The main and commutating poles are cooled by the flat brass elements illustrated in Figs 5b and 5c which also contain cooling tubes. The ends of all the tubes in the cooling elements of the stator are brought out to a water distributing ring. Comparative test data for this totally enclosed machine with and without water cooling and with a protected machine are tabulated, and it will be seen that the use of water cooling increases the output of the enclosed machine from 4 to 17 kW. The water consumption is about 15 litres/min and the inlet temperature is 12°C. The output of the protected machine is 14 kW. The first experimental machine did not make the best use of the

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Water-Cooled Direct Current Machines

cooling facilities available and later designs are improved in this respect; there will be more coolers in the stator, the field windings will be made of hollow conductors and a pump will be built into the machine to make it more independent. The construction is particularly advantageous for machines with a wide range of operating speeds which normally require external fans. The main disadvantage of water cooled machines is that they need fresh water.

Card 3/3

There are 5 figures and 1 table.

SUBMITTED: June 20, 1958

ZIMIN, Vladimir Ivanovich; KAPLAN, Moisey Yakovlevich; PALEY, Anna Markovna;
~~RABINOVICH, Isay Natanovich~~; FEDOROV, Vasiliy Petrovich [deceased];
KHAKKEN, Petr Andreyevich; RIVLIN, L.B., red.; SOBOLEVA, Ye.M.,
tekhn.red.

[Electric machinery windings] Obmotki elektricheskikh mashin.
Izd.5., perer. Moskva, Gos.energ.izd-vo, 1961. 475 p.
(MIRA 14:6)

(Electric machinery--Windings)

RABINOVICH, Isay Natanovich

Modern d.c. machines and problems of commutation. Izv.vys.ucheb.
zav.; elektromekh. 5 no.10:1188-1194 '62. (MIRA 15:11)

1. Nachal'nik konstruktorskogo byuro zavoda "Elektrosila".
(Electric machinery--Direct current)

RABINOVICH, I.N.

Present-day d.c. machines and problems of computation. Elektrosila
no.22:3-8 '63. (MIRA 17:1)

L 18532-66 EWT(1)

ACC NR: AP6002683

SOURCE CODE: UR/0292/66/000/001/0010/0013

AUTHOR: Rabinovich, I. N. (Engineer); Shubov, I. G. (Candidate of technical sciences)

10
B

ORG: none

TITLE: Design of synchronous machines with claw-shaped rotors

SOURCE: Elektrotehnika, no. 1, 1966, 10-13

TOPIC TAGS: synchronous machine, electric generator unit

ABSTRACT: Some hints are given for designing high-speed higher-frequency unwound-rotor synchronous generators intended for autonomous plants; they may have a capacity up to 1000 kw or more. The advantages and disadvantages of single- and multipacket stator construction are discussed. Water-cooled stators and air-cooled rotors are recommended for higher-capacity machines. Criteria for
Card 1/2

L 18532-66

CC NR: AP6002683

maximum parameters of the single-packet construction (flux density, stator loading) are formulated; also, recommendations are given for the spacing between packets in multipacket construction and for limiting the bearing currents. In addition to its primary function, the synchronous generator with a claw-shaped rotor can also develop a considerable amount of d-c low-voltage power; extraction of this power, however, requires overcoming some slip-contact design difficulties. Orig. art. has: 7 figures and 18 formulas.

SUB CODE: 09 / SUBM DATE: none / ORIG REF: 002 UDC: 621.313.32.001.24

1b

2/2

RAYEVSKIY, N.P.; VLADIMIROV, B.V.; KOMAROV, N.S., red.; SHCHUCHKIN, N.V.,
red.; SOLOV'YEV, D.I., red.; RABINOVICH, I.P., red.; VASILENKO,
I.P., red.; MODEL', B.I., tekhn. red.

[Theory, design, and manufacture of agricultural machinery] Teoriia,
konstruktsiia i proizvodstvo sel'skokhoziaistvennykh mashin. Moskva,
Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry. Vol.7. [Atlas of
general agricultural machinery parts] Atlas obshchikh detalei sel'khozai-
stvennykh mashin. 1945. 335 p. (MIRA 14:6)
(Agricultural machinery)

RABINOVICH, I.P.

OMEL'YANOV, A.Ye.; RABINOVICH, I.P.; BOLKHOVITINOV, N.F., doktor
tekhnicheskikh nauk, redaktor; KUNYAVSKIY, M.N., kandidat tekhnicheskikh nauk, redaktor.

[Reference manual on materials in farm machinery parts] Spravochnik
po materialam detalei sel'skokhoziaistvennykh mashin. Izd. 2-e ispr.
i dop. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroitel'noi i sudostroitel'noi lit-ry, 1954. 527 p. (MLRA 7:8)
(Agricultural machinery industry)

SOV/137-57-1-1002

Translation from: Referativnyy zhurnal. Metallurgiya, 1957, Nr 1, p 128 (USSR)

AUTHOR: Rabinovich, I. P.

TITLE: Wear of Farming-machinery Components and Means of Increasing Their Wear Resistance (Iznos detaley sel'skokhozyaystvennykh mashin i puti povysheniya ikh iznosostoykosti)

PERIODICAL: V sb.: Povysheniye dolgovechnosti mashin. Moscow, Mashgiz, 1956, pp 434-444

ABSTRACT: Farming-machinery components may be classified into the following groups: 1) Components subjected to abrasion directly by the soil, e.g., plowshares, moldboards, and cultivator claws; 2) components subjected to wear by vegetable matter, such as blades, thresher bars, and teeth; 3) components suffering wear in regions of contact with other surfaces in the presence of an abrasive interlayer: Enclosed gear trains, bearings (an abrasive interlayer is absent in that case), and bushings; exposed gears, and grate-type conveyors of potato-harvesting machines. Information on the abrasion of components belonging to these groups is presented, and means of suppressing this effect are outlined. Plowshares made of carbon steel

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SOV/137-57-1-1002

Wear of Farming-machinery Components and Means of Increasing (cont.)

(L53, L65) suffer maximum wear during plowing of sandy soils containing large quantities of pebbles (particularly the dense soils of Uzbekistan); the blades of the plowshares are hardened locally to a width of 25-40 mm to achieve an H_B value of 450-650 (any further increase in hardness reduces the wear only slightly). In regions of heavy soils (containing significant quantities of stones) the employment of plowshares with a local blade hardness of $H_B = 500-555$ is advisable, provided the blades had not been overheated prior to tempering; in that instance, a blow impinging on the tip of the blade produces only bending of the latter. Self-sharpening of the plowshares is achieved by employing two-layer (bimetallic) blades (surfacing with stellite or with sormite containing an addition of B, one-sided surface hardening, or chrome plating). Employed on any type of soil, with the exception of sand and sandy loam, such plowshares require frequent repairs (although a sharp blade is produced, it is incapable of deep penetration since the cutting angle acquires a negative value). The conditions under which the blade operates were simulated on a special device described in the article. Best results were achieved with blades made of steel Kh12; compared with steels L53 and 65G, the steel 55S2 offers certain advantages. Wear resistance increases with increasing hardness; however, when $R_C > 61$, certain grades of steel exhibit a tendency toward reduced wear resistance. The presence of the two metal layers does not produce any essential changes in the nature of wear of the

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SOV/137-57-1-1002

Wear of Farming-machinery Components and Means of Increasing (cont.)

blade and does not offer any advantages. High wear-resistant properties were exhibited by white cast iron (R_C of 42-44); chrome-plated carbon-steel plowshares were found to be inferior to other types of plowshares tested. It is recommended that plowshares be designed in a manner permitting the employment of interchangeable parts; the employment of contaminated steel with a non-homogeneous structure should be avoided if the heat-treatment procedures do not include overheating and decarburization. HF induction heating must be automatized. The lower hardness limit of plowshare blades must amount to $H_B = 500$, the only exception being plowshares which are intended for operation on rocky soils; this latter type requires a lower hardness and a special reinforced construction. The zone of quench hardening should be broadened in the case of plowshares intended for sandy soils. Designs must be developed for interchangeable tips made of white cast iron or carbide steel. Recommendations are also given with regard to the design and heat treatment of moldboards (a three-layer steel blade is required), cultivator claws, segments, tooth gears, sprocket wheels, ratchets, bushings, bearings, and links of grate-type conveyors (a design must be developed which would prevent the penetration of abrasive particles into the machinery in the process of the segregation of potatoes from the soil; it is essential that the area of the contact surface be increased).

A. M.

Card 3/3

GAPANOVICH, A.A.; RABINOVICH, I.P.

Impact tests for agricultural machinery parts. Sel'khozmaschina
no.11:27-29 N '56. (MLRA 9:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sel'skokho-
zyaystvennogo mashinostroyeniya.
(Agricultural machinery--Testing) (Metals--Testing)

RABINOVICH, I. P., kandidat tekhnicheskikh nauk.

Flame hardening; a survey. Sel'khoz mashina no. 8:31-33 Ag '57.
(MIRA 10:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sel'skokhozyaystvennogo
mashinostroyeniya.

(Metals--Hardening)

RABINOVICH, I. P.

RABINOVICH, I.P., kand.tekhn.nauk; NILOVSKIY, I.A., inzh.; ROZENBAUM, A.N., inzh.

Increasing the wear resistance of plowshares. Sel'khoz mashina no.11:10-15
(MIRA 10:12)

N '57.

(Plows)

RABINOVICH, I.P., kand.tekhn.nauk

Using new materials in manufacturing agricultural machinery.
Trakt.i sel'khoz mash. 30 no.10:25-27 0 '60. (MIRA 13:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sel'skokho-
zyaystvennogo mashinostroyeniya.
(Agricultural machinery industry)

RABINOVICH, I.P., kand.tekhn.nauk

Use of Brinell test. Trakt.1 sel'khoz mash. 31 no.8:44-46 Ag '61.
(MIRA 14:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sel'skokhozyaystven-
nogo mashinostroyeniya.
(Brinell test)

RABINOVICH, I.P.; KOROTKOV, A.G.; DREVIATNIK, P.P.

Control of the mechanical properties of gray pig iron by a method
which involves mixing with liquid steel. Trakt. i selkhoz mash.
32 no.3:39-40 Mr '62. (MIRA 15:2)
(Cast iron--Metallurgy)

RABINOVICH, I.P., kand.tekhn.nauk; KLIMCHUK, Yu.F., inzh.

Use of plastic materials for increasing the reliability and
operating life of agricultural machinery. Trakt. i sel'khoz mash.
32 no.10:21-23 0 '62. (MIRA 15:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sel'skokhozyaystven-
nogo mashinostroyeniya.
(Agricultural machinery) (Plastics)

RABINOVICH, I.P., kand. tekhn. nauk; KIPNIS, S.B., inzh.

Increasing the service reliability and life span of welded constructions. Trakt. i sel'khoz mash. 33 no.3:38-41 Mr '63.
(MIRA 16:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut
sel'skokhozyaystvennogo mashinostroyeniya.

KLETSKIN, M.I.; RABINOVICH, I.P., kand. tekhn. nauk; TENENBAUM, M.M.,
kand. tekhn. nauk

Estimating the reliability and life of agricultural machines.
Trakt. i sel'khoz mash. 33 no.5:1-4 My '63. (MIRA 16:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sel'skokhozyayst-
vennogo mashinostroyeniya. 2. Glavnyy konstruktor Vsesoyuznogo
nauchno-issledovatel'skogo instituta sel'skokhozyaystvennogo
mashinostroyeniya (for Kletskin).

RABINOVICH, I.S.

Controlling drilling fluid losses; determination of the boundaries
of adsorption horizons. Neft. khoz. 39 no.12:20-24 D '61 (MIRA 14:12)
(Oil well drilling fluids)

RABINOVICH, I.S.

Chromatographic methods used at the Saratov Plant of Synthetic
Alcohol. Zav.lab. 28 no.5:636-637 '62. (MIRA 15:6)

1. Saratovskiy zavod sinteticheskogo spirita.
(Saratov--Alcohol) (Chromatographic analysis)

L 15688-65 EWT(d) Po-4/Pq-4/Pg-4/Pk-4/Pl-4 ASD-3/AFFTC/ESD-3/APGC
ACCESSION NR: AP4047481 S/0120/64/000/005/0157/0161

AUTHOR: Levina, L. Ye.; Men'shikov, M. I.; Pavlenko, V. A.; Rabinovich,
I. S.; Rafal'son, A. E.; Tsy*mberov, M. Ya.; Shutov, M. D.

TITLE: New MKh1101 mass-spectrometric leak detector

SOURCE: Pribery* i tekhnika eksperimenta / no. 5, 1964, 157-161

TOPIC TAGS: leak detector, mass spectrometric leak detector / MKh1101
leak detector

ABSTRACT: The new MKh1101 leak detector differs from previous types (PTI-4a and PTI-6) in that it has no oil-vapor pump, uses an oxidation-resistant cathode, and is calibrated by a reference diffusion-type helium leak. Two lobar rotary (Roots) pumps driven by a single motor provide the rough and fine vacuums: the equilibrium vacuum is $(2-5) \times 10^{-4}$ torr. The cathode is stable in

operation at pressures up to 1 torr. The leak detector sensitivity is $(1-5) \times 10^{-5}$

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L 15688-65

ACCESSION NR: AP4047481

lmc/sec for helium and 5×10^{-4} lms/sec for hydrogen. Setting the detector in operation takes only 10 minutes. Orig. art. has: 6 figures.

ASSOCIATION: SKB Analiticheskogo priborostroyeniya AN SSSR (Special Design Office for Analytical Instruments, AN SSSR)

SUBMITTED: 03Jun63

ENCL: 00

SUB CODE:ME

NO REF SOV: 002

OTHER: 000

Card 2/2

SOV/24-58-10-26/34

AUTHOR: Rabinovich, I. Sh. (Leningrad)

TITLE: Towards a Solution of the Problem of Contact Between Cylinders with Parallel Axes (K resheniyu zadachi o kontakte tsilindrov s parallel'nyimi osyami)

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, 1958, Nr 10, pp 139-140 (USSR)

ABSTRACT: The first solution of the Hertz problem for the case of central compression of two isotropic smooth cylinders with parallel axes was obtained by Ac. A. N. Dinnik. Dinnik used the general theory of Hertz (Ref.2) and obtained an expression for the area of contact of the cylinders, an elliptical law of distribution of pressure across the width of the contact and an infinite value for the change in the distance between the centres of the cylinders. The latter result is in disagreement with the physical aspect of the phenomenon and so Dinnik tried to find this change by a different method. He succeeded in solving the problem, but only in the special case of cylinders of the same radius and material and his result was

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SOV/24-58-10-26/34

Towards a Solution of the Problem of Contact Between Cylinders with Parallel Axes

confirmed experimentally. Belyayev later solved the Hertz problem for cylinders by a method which differs from that used by Dinnik (Ref.4). His expressions for the width of the area of contact and the law of distribution of pressures coincide with those obtained by Dinnik. However, Belyayev's solution does not answer the problem of what is the change in the distance between the axes. The present author has re-examined Belyayev's paper and found that a constant of integration was omitted in this work which accounts for the fact that Belyayev's solution does not solve the above problem. To an engineer it is important to know the change in the distance between the centres of the cylinders on compression. If the above constant of integration is taken into account, the present author finds that:

$$\alpha = p(j_1 + j_2) \ln \frac{R_1 + R_2}{R_1 R_2 (j_1 + j_2) p} + 2p(j_1 \ln R_1 + j_2 \ln R_2) -$$

$$\text{Card 2/3 } p \left(\frac{j_1 \sigma_1}{1 - \sigma_1} + \frac{j_2 \sigma_2}{1 - \sigma_2} \right) \quad (6)$$

SOV/24-58-10-26/34

Towards a Solution of the Problem of Contact Between Cylinders with Parallel Axes

where R_1 and R_2 are the radii of curvature of the contacting cylinders, $\nu = (1 - \sigma^2)/E$, σ and E being the Poisson's and Young's moduli, and p is the compression load per unit length. This solution is in good agreement with the approximate formulae given by Dinnik (Ref.1) and Foppl (Ref.3) in the special case where the radii of the cylinders are equal. There is 1 figure and there are 5 references; 3 of the references are Soviet and 2 are German.

SUBMITTED: October 28, 1957.

Card 3/3

11100

27142
S/121/61/000/004/002/008
D040/D113

AUTHORS: Blokh, O. I., Rabinovich, I. Sh., and Rashkovich, M. P.

TITLE: Magnetostrictive setting-up and feeding drive for precision machine tools

PERIODICAL: Stanki i instrument³², no. 4, 1961, 12-13

TEXT: Design and operation is described of a magnetostrictive drive suitable for micro-feed in grinders, for setting tools in diamond boring machines, and for accurate positioning of various precision machine tool mechanisms. The device ensures a pulse frequency of up to 10 per sec and feed variations from 1 to 10 μ for a base of 100 mm, whilst the existing drives of this kind produce a maximum of 1 cycle per sec (Ref. 1: L. S. Akhmechet, O. I. Blokh, V. S. Shorgin, "Stanki i instrument", No. 1, 1960; Ref. 2: J. G. Robinson, G. S. Butterworth, "Electrical Manufacturing", 1957). The drive (Fig. 1) has a rod (1) of "K-64" cobalt alloy increasing its length 90 microns per 1 meter in saturated magnetic field of a coil (2), and two hydraulic membrane clamps (3) (right and left) switching on in sequence. When the system is connected to a d.c. source, the rod portion between the

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27142

S/121/61/000/004/002/008

DO40/D113

Magnetostrictive setting-up

clamps magnetizes and elongates toward the released right clamp giving a push to the servo element (4) of the machine tool. The displacement magnitude depends on the length L of the rod and the saturation of magnetic field. The right clamp closes after the rod is elongated, and the left opens and the coil winding switches off. The rod contracts to initial length, the clamps assume zero position, and the cycle repeats. A nonadjustable radial-piston hydraulic pump (Fig. 2) controls the clamps. It has two cams in different planes, one controlling two 10 mm diameter pistons (d_1) and the other two 12 mm pistons (d_2). Each d_1 piston is coupled with a d_2 , and the two piston couples are at a 45° angle to each other. Each pistons couple is a separate pump of 0.5 liter/min capacity at 300 rpm shaft velocity and controls one clamp. The description includes the control circuit diagram of the system, a separate diagram showing the design of the magnetic switch with an oscillating sector-shaped core, and an oscillogram of the system operation. There are 5 figures and 2 references: 1 Soviet and 1 non-Soviet bloc. The reference to the English-language publication reads as follows: J. G. Robinson, G. S. Butterworth, "Electrical Manufacturing", 1957.

Card 2/4

MATSIYEVSKIY, Anatoliy Gavrilovich; ERLIKH, Lazar' Borisovich; Prinimali
uchastiye: SLEZINGER, I.N., kand.tekhn.nauk, dots.; MENAKER, L.S.,
inzh.; RABINOVICH, I.Sh., inzh.; SVIRIDENKO, S.Kh., red.; ORLIKOV,
M.L., dots., retsenzent; BYKOVSKIY, A.I., inzh., red.;
GORNOSTAYPOL'SKAYA, M.S., tekhn. red.

[Efficient organization of machine-tool design] Ratsionalizatsia
raschetov pri konstruirovanii stankov. Pod red. S.Kh.Sviridenko.
Moskva, Mashgiz, 1962. 127 p. (MIRA 15:7)
(Machine tools--Design)

RABINOVICH, I.Sh., inzh.; TETEL'BOYM, B.M., inzh.

Determining parameters of the driving-wheel profile of centerless
grinding machines. Vest.mashinostr. 42 no.6:67-69 Je '62.
(MIRA 15:6)

(Grinding machines)

RABINOVICH, I. Sh., inzh.

Once more about the solution of the contact problem for cylinders
with parallel axes. Trudy GPI 18 no.4:91-94 '63.

(MIRA 17:9)

RABINOVICH, I.Sh.

Superfinish heads with a pneumatic oscillation drive. Stan.1
instr. 34 no.7:14-17 J1 '63. (MIRA 16:9)
(Grinding machines—Pneumatic driving)

RABINOVICH, I. Sh. (Leningrad)

Contact compression of two elastic cones. Izv. AN SSSR. Mekh.
no.1:68-73 Ja-F '65. (MIRA 18:5)

ACC NR: AT6021749 (A) SOURCE CODE: UR/0000/66/000/000/0220/0222

AUTHOR: Rabinovich, I. Sh.

ORG: none

TITLE: The natural oscillation frequency of the float in a flowmeter

SOURCE: AN SSSR. Institut avtomatiki i telemekhaniki. Pnevmoavtomatika (Pneumatic automation). Moscow, Izd-vo Nauka, 1966, 220-222

TOPIC TAGS: pneumatic device, pneumatic control system, gas flow, flow detection, flow measurement, flow velocity

ABSTRACT: Float type flowmeters, in addition to the measuring gas and liquid flow, are finding increasing application in automatic control, where they are used to measure dimensions. The response speed in these applications has to be high and it is important to know the natural oscillation frequency of the float to prevent errors. The natural oscillation frequency of a float in the flowmeter shown in Fig. 1 is derived to the first order of approximation using a numerical solution method for the nonlinear differential equation expressing the motion of the float. At balance this equation is

$$\ddot{\xi} + \frac{\pi K g d}{2} \xi = 0. \quad (1)$$

where K is the taper inside the tube, containing the float, g is the gravitational

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ACC NR: AT6021749

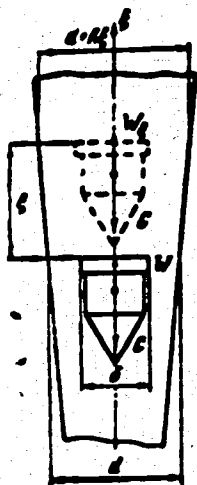


Fig. 1.

force, G is the weight of the float, d is the tube diameter at the point of the float balance position, Q is the area of the gap between the float and the tube, and ξ is the float displacement. Denoting

$$\rho = \frac{\pi K d^2}{Q},$$

and substituting into (1), a differential equation representing a system with one degree of freedom subject to free harmonic oscillations

$$\xi'' + \rho \xi = 0.$$

is obtained. Hence the natural oscillation frequency of the float is

$$\rho = \sqrt{\frac{\pi K d^2}{Q}}.$$

Orig. art. has: 10 formulas, 1 figure.

SUB CODE: 13, 20/2 SUBM DATE: 03Feb66/

ORIG REF: 005

Card 2/2

S/C81/62/000/010/010/085
3158/3144

AUTHORS: Nikolskyev, P. N., Rabinovich, I. V.

TITLE: Thermochemistry of isotopic compounds. 1. The effect of substitution of deuterium for hydrogen on the heat capacity of benzene

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 10, 1962, 44, abstract 10B268 (Tr. po khimii i khim. tekhnol., (Gor'kiy), no. 2, 1961, 242-250)

TEXT: The values of c_p of liquid C_6H_6 (I) and C_6D_6 (II) were measured in the temperature range 10-30°C. Values of c_v for these compounds were calculated using data obtained previously on the contractability and coefficient of heat expansion of I and II (RZhKhim, no. 4, 1959, 10921; no. 18, 1960, 76353). Complete substitution of deuterium for hydrogen caused an increase in the c_p value of benzene by 13-14%, and in that of c_v by 18-20 %. The ratio of $c_p:c_v$ for I and II was 1.45-1.41 and

Card 1/2

Thermochemistry of isotopic...

S/081/62/000/010/010/085
B158/B144

1.37-1.34, respectively. The procedure and apparatus for measurement of c_p are described as well as the procedure for preparation of II.

[Abstracter's note: Complete translation.]

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Card 2/2

RABINOVICH, I.V.

STRUCTURE AND PHYSICAL PROPERTIES OF MATTER IN A LIQUID STATE
reports read at the 4th Conference convened in KIEV from 1 to 5 June
1959, published by the publisher House of KIEV University, KIEV,
USSR, 1962

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RABINOVICH I. YA.

181T70

USSR/Metals - Welding, Equipment

Dec 50

"Combined Welding Transformer-Regulator (STN)
of the Academician V. P. Nikitin System," I. Ya.
Rabinovich, Cand Tech Sci, Sec of Elec Welding
and Electrothermics, Acad Sci USSR

"Avtogen Delo" No 12, pp 1-5

Claims USSR priority in using ac for elec arc
welding and describes combined single unit weld-
ing transformer patented in 1927 by V. P. Nikitin.
States that many foreign firms borrowed Soviet
ideas and design of welding equipment. Specifi-
cally mentions Westinghouse and Allis-Chalmers
which make transformers on the STN system.

181T70

RABINOVICH, I. Ya.

Electric Welding

Developing work for the great communist construction projects in all branches.
Avtog. delo, 23, No. 6, 1952.

9. Monthly List of Russian Accessions, Library of Congress, October 1952 Uncl.

RABINOVICH I. YA.

Rabinovich I. Ya., "Static Characteristics and Their Application for the Analysis and Classification of Arc-welding Automatic Regulation Systems," Traktaty Seksii po nauchnoy razrabotke problem elektrosvarki i elektrotermii, No 1, Moscow, USSR Academy of Sciences, 1953, Pages 10-30; bibliography, 8 items.

RABINOVICH, I.Ya.

Problems of the theory of automatic regulation of the arc welding process.
Trudy Sekts.po nauch.rasrab.probl.elektrosv. i elektroterm. AN SSSR no.1:5
'53. (MLRA 6:9)
(Electric welding)

RABINOVICH, I.Ya.

Static characteristics and their application in the analysis and classification of methods of automatic regulation of arc welding. Trudy Sekts. po nauch. razrab. probl. elektrosv. i elektroterm. AN SSSR no.1:10 '53.
(MIRA 6:9)
(Electric welding)

1. RABINOVICH, I. Ya.
2. USSR (600)
4. Inventors
7. Nikolai Nikolaevich Benardos. A. S. Ogiyevetskiy, L. D. Radunskiy. Reviewed by I. Ya. Rabinovich. Sov. kniga No. 3, 1953.
9. Monthly List of Russian Accessions, Library of Congress, June 1953, Uncl.

RABINOVICH, Isak Yakovlevich, kandidat tekhnicheskikh nauk; TSEGEL'SKIY, V.L., inzhener, redaktor; BEGAK, B.A., redaktor; MEDVEDEV, L.Ya., tekhnicheskiy redaktor.

[Use of welding transformers in construction work] Primenenie svarochnykh transformatorov v stroitel'stve. Moskva, Gos.izd-vo lit-ry po stroitel'stvu i arkhitekture, 1954. 48 p. (MIRA 8:5)
(Electric transformers) (Electric welding)

RABINOVICH, I.Ya.

~~SECRET~~
[Use of welding transformers in construction work] Primenenie
svarochnykh transformatorov v stroitel'stve. Moskva, Gos. izd.
lit. po stroitel'stvu i arkhitekture, 1954. 51 p. (MLBA 8:2D)

RABINOVICH, I.Ya.

Shortcomings of the rules for the design of electrotechnical apparatus for electric welding. Avtom. svar. 7 no.6(39):77-79 M-D '54. (MLRA 8:2)

1. Otdel svarki Instituta metallurgii Akademii nauk USSR.
(Electric welding)

RABINOVICH, I.Ya., kandidat tekhnicheskikh nauk.

New principle of automatic three-phase arc welding. Vest.AN SSSR
25 no.8:53-55 Ag '55. (MIRA 9:1)
(Electric welding)

NIKITIN, Vasilii Petrovich, akademik; RABINOVICH, I.Ya., kandidat tekhnicheskikh nauk, otvetstvennyy redaktor; GRIGOR'YEV, Ye.N., redaktor izdatel'stva; SIMKINA, Ye.N., tekhnicheskiy redaktor; KASHINA, P.S., tekhnicheskiy redaktor

[Principles of a theory of transformers and generators for arc welding] Osnovy teorii transformatorov i generatorov dlia dugovoi svarki. Moskva, Izd-vo Akademii nauk SSSR, 1956. 237 p. (MLRA 9:11)
(Electric welding)

KASHKIN, G. M. and KALINOVICH, I. Ya. (Candidate of Technical Sciences) and
SLEPUSHKINA, Ye. I. (Engr.)

"Direct Current Power Sources with Universal Characteristics for Arc
Welding."

paper presented at All-Union Scientific-Technical Conference on Welding in
Shielding Gases, Leningrad, Dec 1957.

(Svarochnoye Proizvodstvo, 1958, No. 4, pp 46-47 - author Tyul'kov, M. D.)

RABINOVICH, I Ya.

135-4-4/15

SUBJECT: USSR/Welding

AUTHOR: Rabinovich, I.Ya., Candidate of Technical Sciences.

TITLE: Some Peculiarities of the Work of Electrical Welding Equipment in Shielding Gas-Medium. (Nekotorye osobennosti raboty elektro-oborudovaniya dlya avtomaticheskoy svarki v srede zashchitnykh gazov).

PERIODICAL: "Svarochnoye Proizvodstvo", 1957, # 4, pp 12-15 (USSR)

ABSTRACT: A general review of the electro-technology of welding in shielding gases contains the following conclusions:

- 1) Feed sources of a rigid or a rising outer characteristic may be used for feeding a d.c. arc of a rising static characteristic.
- 2) For automatic welding in neutral gases - particularly with a short arc - fast-operating control systems must be applied. The intensity of arc self-controlling is, with the arc of a rising static characteristic, considerably lower than with arc welding under flux, the other conditions being equal. When feeding from sources of a falling outer characteristic, the intensity of self-controlling can prove insufficient to obtain a stable process. In this case systems of forced voltage

Card 1/2

135-4-4/15

TITLE: Some Peculiarities of the Work of Electrical Welding Equipment in Shielding Gas-Medium. (Nekotorye osobennosti raboty elektrooborudovaniya dlya avtomaticheskoy svarki v srede zashchitnykh gazov).

control are to be applied.

3) The use of feed sources of a rigid or rising outer characteristic leads to a considerably more intensive self-control.

4) In order to reduce the possible disturbances in the speed of welding rod feed, it is advisable to use a drive of a rigid mechanical characteristic for the self-regulation systems of the arc.

The article contains 4 diagrams (electrical characteristics) and 1 table.

ASSOCIATION: Laboratoriya elektricheskikh svarochnykh mashin AN SSSR (Electrical Welding Machine Laboratory Academy of Sciences, USSR).

PRESENTED BY:

SUBMITTED:

AVAILABLE: At the Library of Congress

Card 2/2

PHASE I BOOK EXPLOITATION

1091

Rabinovich, Isaak Yakovlevich

Oborudovaniye dlya dugovoy elektricheskoy svarki; istochniki pitaniya dugi (Equipment for Electric Arc Welding; Arc Power Supply Sources) Moscow, Mashgiz, 1958. 380 p. 13,000 copies printed.

Reviewer: Bratkova, O.N., Candidate of Technical Sciences; Ed.: Shchitova, V.M., Candidate of Technical Sciences; Ed. of Publishing House: Stepanchenko, N.S.; Tech. Ed.: Model', B.I.; Managing Ed. for Literature on Heavy Machine Building (Mashgiz): Golovin, S.Ya., Engineer.

PURPOSE: This is a textbook for students in machine-building and polytechnic vuzes and covers a course in power supply sources for electric arc welding. It may also aid engineering and technical personnel concerned with arc welding in the selection and proper operation of electric welding equipment.

COVERAGE: The material presented in the book is divided into four parts. The first part discusses the characteristics and properties of the

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Equipment for Electric Arc Welding (Cont.) 1091

welding arc and explains what requirements are imposed on the power-generating equipment. The next two parts deal with the theory of operation and with basic properties and design characteristics of typical Soviet and non-Soviet power equipment used in manual and automatic a-c and d-c arc welding. The last part concerns the basic rules governing the construction and operation of electric arc welding units. In preparing this book the author utilized material submitted by many outstanding plants and research institutions concerned with welding such as the "Elektrik" Plant, VNIIESO, the USSR Academy of Sciences, the Institut elektrosvarki, AN, USSR (Institute of Electric Arc Welding, Academy of Sciences, Ukrainian SSR), the MVTU imeni Bauman, TsNIITMASH, NIAT, the Ural'skiy politekhnicheskiy institut (Ural Polytechnic Institute), the Leningradskiy politekhnicheskiy institut (Leningrad Polytechnic Institute) and others, as well as the results of his own research. Certain theoretical problems dealing with the theory of power supply for arc welding and presented in Chapter III (Sections 2,3,4), Chapters VIII, X, XIII, XIV and others, are the author's original contributions in this field or his further development of problems raised by other scientists. There are 53 Soviet references.

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AUTHORS:

Shchitova, V.M. and Rabinovich, I.Ya.

125-1-7/15

TITLE:

Problems of the Dynamics of D.C. Power Sources for Automatic Shielded-arc Welding (Voprosy dinamiki istochnika pitaniya pri avtomaticheskoy svarke v zashchitnykh gazakh)

PERIODICAL:

Avtomaticheskaya Svarka, 1958, # 1, pp 43 - 47 (USSR)

ABSTRACT:

Experimental and theoretical investigations carried out in the laboratory of electric welding machines of the USSR Academy of Sciences, show that the choice of circuits and shapes of the external characteristics of D.C. power sources must correspond to their dynamic properties. The following questions are outstanding in an analysis of the dynamics of a system consisting of a power source and an arc: 1) the investigation of transition processes in the power source during the short circuit in the electrode and the piece of work and a subsequent break of the circuit; 2) the analysis of stability and investigation of transition processes in a self-controlled system taking into account the inertness of the power source; 3) the investigation of the power source in a self-controlled system with periodic disturbances in the arc. The authors investigated the problems connected with the dynamics of power sources in automatic shielded-arc welding with fused electrodes and come to the following conclusions:

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Problems of the Dynamics of D.C. Power Sources for Automatic Shielded-arc Welding

The initial arc excitation and the stability of the welding process with short arcs can be improved by increasing the incremental rate of the short circuit current and the regenerating rate of the generator voltage during the break of the short-circuited welding chain. This may be attained by increasing the idle running voltage, by reducing the induction between the rotor circuit and the excitation coil and by reducing the time-constant of the rotor circuit.

An automatic control of the arc may be improved by using power sources with rigid or incremental characteristics. The slope of the external characteristics must be less than the slope of the volt-ampere static characteristics, in order to increase the stability of the system and to obtain aperiodic transient processes.

The authors propose that a generator with an independent excitation be utilized where the increased voltage of idle running can be obtained by a special circuit. Such generators have good dynamic properties and ensure a sufficient

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125-1-7/15

Problems of the Dynamics of D.C. Power Sources for Automatic Shielded-arc
Welding

intensity of automatic control.

There are 2 figures and 3 Russian references.

ASSOCIATION: The Section of Power Sources and Automation of TsNIL Electrom
(Otdel istochnikov pitaniya i avtomatizatsii TsNIL-Elektrom)
of the USSR Academy of Sciences.

SUBMITTED: 2 April, 1957.

AVAILABLE: Library of Congress

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SOV/135-58-12-2/20

AUTHOR: Rabinovich, I.Ya., Candidate of Technical Sciences

TITLE: Problems in the Development of Electric Arc Welding Equipment
(Voprosy razrabotki oborudovaniya dlya dugovoy elektricheskoy
svarki)

PERIODICAL: Svarochnoye proizvodstvo, Nr 12, pp 6-9 (USSR)

ABSTRACT: General information is given on the development of electric arc welding equipment, such as transformers, generators, etc. The design of a.c. power sources was improved. The design of welding generators with universal external characteristics was developed at TsNIL-ELEKTROM under the supervision of G.M. Kasprzhak, I.Ya. Rabinovich and with the participation of Ye. I. Slepushkin, V.M. Shchitova, M.Sh. Dobrushin, N.V. Belenko and Ye.L. Orkina. Best results were obtained by using systems with excitation from semi-conductor or magnetic amplifiers. A test model of an attachment with a semi-conductor amplifier was designed under the supervision of G.M. Kasprzhak and with the participation of N.V. Belenko and Ye.L. Orkina. New automatic welding machines are equipped with an electrode feed from a stabilized drive (designed at TsNIL-ELEKTROM AS USSR)

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